

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on November 09, 2007 with respect to claims 1, 3, 4, 8-10, 12-15, and 18-23 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claims 1, 3, 4, 8-10, 12-15, and 18-23** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Re **claims 1, 9, and 15**: the newly added limitation “multiplicity of semiconductor chips and receiving and modulating by a semiconductor chip” **was not described in the specification** since the amended limitation has not been identified or recognized by the disclosure in the specification.

Claim Objections

4. The amended claims **1, 3, 4, 8-10, 12-15, and 18-20** filed on November 09, 2007 are objected to because of failure to provide the marked up version, more specifically, the amendment does not comply with the requirements of 37 CFR 1.121(c).

Amendments to the claims filed on or after July 30, 2003 must comply with 37 CFR 1.121(c) which states:

(c) *Claims.* Amendments to a claim must be made by rewriting the entire claim with all changes (*e.g.*, additions and deletions) as indicated in this subsection, except when the claim is being canceled. Each amendment document that includes a change to an existing claim, cancellation of an existing claim or addition of a new claim, must include a complete listing of all claims ever presented, including the text of all pending and withdrawn claims, in the application. The claim listing, including the text of the claims, in the amendment document will serve to replace all prior versions of the claims, in the application. In the claim listing, the status of every claim must be indicated after its claim number by using one of the following identifiers in a parenthetical expression: (Original), (Currently amended), (Canceled), (Withdrawn), (Previously presented), (New), and (Not entered).

(1) *Claim listing.* All of the claims presented in a claim listing shall be presented in ascending numerical order. Consecutive claims having the same status of “canceled” or “not entered” may be aggregated into one statement (*e.g.*, Claims 1–5 (canceled)). The claim listing shall commence on a separate sheet of the amendment document and the sheet(s) that contain the text of any part of the claims shall not contain any other part of the amendment.

(2) *When claim text with markings is required.* All claims being currently “currently amended,” and be submitted with markings to indicate the changes that have been made relative to the immediate prior version of the claims. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. Only claims having the status of “currently amended,” or “withdrawn” if also being amended, shall include markings. If a withdrawn claim is currently amended, its status in the claim listing may be identified as “withdrawn—currently amended.”

(3) *When claim text in clean version is required.* The text of all pending claims any markings in the presentation of text. The presentation of a clean version of any claim having the status of “original,” “withdrawn” or “previously presented” will constitute an

assertion that it has not been changed relative to the immediate prior version, except to omit markings that may have been present in the immediate prior version of the claims of the status of “withdrawn” or “previously presented.” Any claim added by amendment must be indicated with the status of “new” and presented in clean version, *i.e.*, without any underlining.

(4) *When claim text shall not be presented; canceling a claim.*

(i) No claim text shall be presented for any claim in the claim listing with the status of “canceled” or “not entered.”

(ii) Cancellation of a claim shall be effected by an instruction to cancel a particular claim number. Identifying the status of a claim in the claim listing as “canceled” will constitute an instruction to cancel the claim.

(5) *Reinstatement of previously canceled claim.* A claim which was previously canceled may be reinstated only by adding the claim as a “new” claim with a new claim number.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1, 3, 9, 10, 12-15, 19 and 21-23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunz et al. (U.S. 2005/0003781 A1) in view of Hishiki et al. (U.S. 6,408,195).

Regarding **claim 1**, Kunz teaches an integrated circuit board (*i.e.*, as shown in Figs. 5-7, the transmitter and receiver circuits are integrated into the circuit board; see paragraphs 0005+ and 0042+), the board comprising:

a multiplicity of circuit chips for processing signal groups (i.e., noted the signal processing circuits as shown in Figs. 1-4; and also noted the use of plurality of components for processing signal groups as shown in the transmitter chips and the receiver chip of Figs. 5-7), wherein a plurality of circuit chips exchange signal groups using wireless techniques, the multiplicity of circuit chips including (Figs. 5-7 and pages 5, paragraphs 54 – 60).

at least one selected circuit chip receiving wireless signal groups from at least one predetermined circuit chip on the circuit board the selected circuit chips having (i.e., noted the elements 102, 104, 106, 108, 112 and 110 as shown in Fig. 1 for receiving signal groups, such as the packets transmitted from the transmitter, and selected circuit chips as shown in Figs. 5-7 and pages 5, paragraphs 54 - 58), an antenna for receiving wireless signals (i.e., noted the use of an antenna for receiving RF signals as discussed in paragraphs 0020); the wireless signal receiver coupled to the antenna (i.e., noted the receiver as shown in Figs. 1 and 5-7; see paragraph 0020), the receiver detecting the wireless signals (i.e., see Figs. 1-7; paragraphs 0015+); and a demodulator coupled to the receiver, the demodulator recovering signal groups in the wireless signals (i.e., as shown in Figs. 1-4, the demodulator 106/108 is coupled to the receiver for recovering signals groups, such as the packets of RF signal group transmitted from the transmitter, and the signals groups of FSK/FM & ASK/AM is further applied to the microcontroller, ADC and respective output devices as shown in Figs. 1-40; see paragraphs 0020-0025).

Kunz does not specifically disclose the limitation “a plurality of semiconductor chips exchange signal groups using wireless techniques, the multiplicity of

semiconductor chips including at least one selected semiconductor chip receiving wireless signal groups from at least one predetermined semiconductor chip on the circuit board the selected semiconductor chips having”. However, Hishiki teaches the limitation “a plurality of semiconductor chips (semiconductor chips in integrated circuit board in Fig. 1) exchange signal groups (Fig. 1) using wireless techniques (wireless communication), the multiplicity of semiconductor chips (Fig. 1) including at least one selected semiconductor chip receiving wireless signal groups (selector or detector circuit in Fig. 1) from at least one predetermined semiconductor chip (Fig. 1) on the circuit board” (Fig. 1, 8 and column 9, lines 36 – column 10, lines 62). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Kunz’s system as taught by Hishiki, provide the motivation to achieve an efficient wireless signal reception for communication reliability in wireless communication terminal.

Regarding **claim 3**, Kunz teaches that signals received by the wireless signal receiver are modulated with a modulation from the group consisting of amplitude modulation and frequency modulation (i.e., noted the FSK/FM and ASK/AM as discussed in paragraph 0040; and see Fig. 7).

Regarding **claim 9**, Kunz and Hishiki teach all the limitation as discussed in claim 1. Furthermore, Kunz teaches that transferring logic signal groups between integrated circuit chips (i.e., see Figs. 1-7; paragraphs 0042+), the method comprising:

modulating and transmitting a radio frequency wireless signal by a first integrated circuit the wireless signal being modulated with logic signal groups generated by the first integrated circuit (i.e., as shown in Figs. 5-7, the RF signals is modulated/encoded from the first integrated transmitter circuit 502/504); and receiving and demodulating the radio frequency wireless signal by the second integrated circuit (i.e., noted that the received RF signal is demodulated at the receiving circuit 506 as shown in Figs. 5-7; and also see Fig. 1-4 for demodulation process of the receiving circuit).

Regarding **claim 10**, Kunz teaches that the radio frequency wireless signal transmits signal groups formatted in a serial format (i.e., as discussed in paragraphs 0021, the RF signal is modulated in a wide variety of modulation/encoding formats for a transmission, such as AM/FM modulated/encoded signals. Thus, the packet block transmitted from the transmitter as shown in Figs. 5-7 must be in either serial or parallel data format. In view of this, the use of “a serial format” for transmitting RF signal is an inherent feature of Kunz ‘781. In particular, it’s cleared from Fig. 1 that single serial formatted modulated signal packet block is received at the down-converter 102 and further converted to output a parallel format to the FSK/FM and ASK/AM demodulators 106 and 108 respectively).

Regarding **claim 12**, Kunz teaches that wherein the modulation of the carrier frequency wireless signal transmitting the signal groups is modulation with a modulation selected from the group consisting of amplitude modulation and frequency modulation (see Fig. 1 and paragraphs 0040).

Regarding **claim 13**, Kunz teaches that a transmitted wireless signal is encoded with a signal identifying to identify pre-selected pattern of signals (i.e., as shown in Figs. 5-7, the Data encoder from the transmitter circuit used a wide variety of modulation/encoding schemes, thus, the packet data transmitted from the transmitter is considered as “pre-selected pattern of the signals”, and also noted the identifying of the pre-selected packet pattern of the RF signals as discussed in paragraphs 0026-0038).

Regarding **claim 14**, Kunz teaches that the receiving and demodulating of the wireless signal provide a decoded signal representing a pre-selected pattern of signals (i.e., as shown in Figs. 1-7, the receiver is receiving and demodulating a pre-selected pattern of signals either in FSK/FM or ASK/AM format at the receiving circuit as encoded from the transmission side).

Regarding **claim 15**, Kunz and Hishiki teach all the limitation as discussed in claim 1. Furthermore, Kunz teaches that a system for transferring data signal groups between integrated circuit chips (i.e., noted the integrated circuit chips for the transmitter and the receiver as shown in Figs. 5-7; also see paragraphs 0042+): the system comprising:

a first integrated circuit chip (i.e., see Figs. 5-7, the elements 502-504, 602-604 and 702-704), the first integrated circuit chip including: a first processing unit (i.e., noted the DATA Source and DATA Encoder); and a radio wireless transmitting unit (i.e., noted the RF Transmitter as shown in Figs. 5-7) coupled to the first processing unit and receiving signal groups there from (i.e., noted the Transmitter as shown Figs. 5-7 is

coupled to the Data Source/Encoder, and receiving the signal packet groups from the Data Source/Encoder), the radio transmitting unit transmitting the signal groups from the first processing unit (i.e., as shown in Figs. 5-7, the transmitter unit 502 and 504 transmitted the signal groups from the processing unit such as DATA Source/Encoder); and

a second integrated circuit (i.e., as shown in Figs. 5-7, the receiving circuit 506, 606 and 706 is considered as a second integrated circuit as claimed; see paragraphs 0005+ and 0042+), the second integrated circuit including: a second processing unit (i.e., as shown in Figs. 1-7, the elements 102, 104, 106, 112, 110 and 508 are considered as a second processing unit), and a radio wireless receiving unit (i.e., noted the RF receiver 102/508 as shown in Figs. 1-7) coupled to the second processing unit (i.e., the elements 104, the data decoder and MCU as shown in Figs. 1-7 are considered as a second processing unit), the radio wireless receiving unit receiving radio the signal groups from the transmitting unit (i.e., noted that the RF receiver as shown in Figs. 1-7 is receiving RF signal from the transmitter), the transmitting unit receiving unit applying the signal groups to the second processing unit (i.e., as shown in Figs. 1-7, the encoded RF signal packets from the transmitting unit are applied to the decoding/demodulating circuits at the receiver device).

Regarding **claim 19**, Kunz and Hishiki teach all the limitation as discussed in claim 1. Furthermore, Kunz teaches that the first integrated circuit is located on a first circuit board, and the second integrated circuit is located on a second circuit board the first circuit board and the second circuit board being in a stacked configuration (i.e., as

shown in Figs. 5-7, the first integrated circuit for the transmitter is located on the first circuit board of the transmitter 502, 602 and 702, and the second integrated circuit of the receiver is located on the second receiver circuit 506, 606 and 706).

Regarding **claim 21**, Kunz and Hishiki teach all the limitation as discussed in claims 1 and 9.

Regarding **claim 22**, Kunz and Hishiki teach all the limitation as discussed in claims 1 and 9.

Regarding **claim 23**, Kunz and Hishiki teach all the limitation as discussed in claims 1 and 9.

7. **Claims 4, 8 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunz in view of Hishiki and in further view of Shimizu et al. (U.S. 4,989,204).

Regarding **claim 4**, it is noted that Kunz and Hishiki do not explicitly show the use of an analyzer, the analyzer receiving signals from the demodulator; the analyzer decodes the signal from the demodulator into a plurality of logic signals.

However, the above-mentioned claimed limitations are well known in the art as evidenced by Shimizu. In particular, Shimizu teaches the use of an analyzer (i.e., see Fig. 4, the element 49/50), the analyzer receiving signals from the demodulator; and the analyzer (i.e., the elements 48 and 49/50) decodes the signal from the demodulator into a

plurality of logic signals (i.e., as discussed in col. 5, lines 54+ that the analyzer 49/50 receiving packet signals from the demodulator 47/48, and the analyzer 49/50 and the decoder 48 is used to decodes the signal from the demodulator 47 into a plurality of packet signals and directed to the channel controller 41 and the user's I/O device 40 as a logic signals).

In view of the above, having the system of Kunz and Hishiki and then given the well-established teaching of Shimizu, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the system of Kunz and Hishiki as taught by Shimizu, since Shimizu stated in col. 1, lines 50+ that such a modification would ensure high throughput communication in a packet radio communication system.

Regarding **claims 8 and 20**, it's noted that although Kunz and Hishiki teach the use of a packet signal group, Kunz and Hishiki do not explicitly show a header portion, a data portion, and a tail portion.

However, the above-mentioned claimed limitations are well known in the art as evidenced by Shimizu. In particular, Shimizu teaches the use of a packet signal groups having a header portion (i.e., see Fig. 5a, the element's 62 and 63, the "SYNC" portion of the packet), a data portion (i.e., see Fig. 5a, the elements 62 and 63, the "DATA" portion) and a tail portion (i.e., noted the "FCS" portion of the packet 62 and 63 as shown in Fig. 5a) in the RF communication system is conventionally known to the one having ordinary skilled in the art at the time of the invention was made.

In view of the above, having the system of Kunz and Hishiki and then given the well-established teaching of Shimizu, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the system of Kunz and Hishiki as taught by Shimizu, since Shimizu stated in col. 1, lines 50+ that such a modification would ensure high throughput communication in a packet radio communication system.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Greeff et al. (US 6,169,474) discloses Method of Communications in a Backscatter System, Interrogator, and Backscatter Communications System.

Habuka et al. (US 2004/0022004) discloses Semiconductor Integrated Circuit Device, Wireless LAN System, and Auto Gain Control System.

Information regarding...Patent Application Information Retrieval (PAIR) system... at 866-217-9197 (toll-free)."

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231
Or P.O. Box 1450
Alexandria VA 22313

or faxed (571) 273-8300, (for formal communications intended for entry)

Or: (703) 308-6606 (for informal or draft communications, please label "PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to USPTO Headquarters, Alexandria, VA.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John J. Lee** whose telephone number is (571) 272-7880. He can normally be reached Monday-Thursday and alternate Fridays from 8:30am-5:00 pm. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, **Nay**

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Maung, can be reached on **(571) 272-7882**. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.

J.L

June 17, 2008

John J Lee

/JOHN J LEE/

Examiner, Art Unit 2618